COMPUTER SYSTEM AND METHOD FOR
RADIAL COOLED BUCKET OPTIMIZATION

ABSTRACT OF THE DISCLOSURE

A computer system and method optimizes the heating exchanging geometry of a radial cooled bucket for a turbine engine. The computer system enables rapidly prototyping and evaluations of different radial cooled bucket configurations. The computer system includes a simulator and an optimizer. The simulator forms an analytical model of the bucket and executes a simulation of a thermal environment within the engine producing a predicted performance parameter for the model. The optimizer compares the performance parameter to a baseline criterion. If the performance parameter does not match the baseline criterion the optimizer automatically indexes a variable of defining the geometry.